

Appln. No. 09/864,107

Amdt. dated January 18, 2006

Reply to Office Action dated November 1, 2005

IN THE CLAIMS:

Please amend claims 1, 9-12 and 14-18 and add new claims 25-33 as follows. The following listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

Claim 1 (Currently Amended). A method for providing and processing a cursored user interaction with a spatially displayed medical image and producing graphics related data on said medical image, wherein said method comprises the steps of:

5 providing a menu-less graphical interface; ~~for~~
 displaying, essentially unobstructed, said medical
 image in a substantial portion of said graphical interface
 without the presence of menus, toolbars and control panels
 on said graphical interface;

10 controlling a mouse computer interface device having at
 least one button;

 displaying a pointer symbol on said graphical
 interface, wherein said pointer symbol represents a current
 position of said mouse on said graphical interface;

15 tracking a status of each of said at least one button;
 detecting a position of said mouse, wherein said
 position detection step is activated upon actuation of one
 of said at least one button;

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20 generating one of a plurality of different measurement
graphics related to a predefined set of measurement
operations on said medical image upon at least one actuation
of said at least one button;

25 when said medical image is displayed on said graphical
interface without the presence of menus, toolbars and
control panels, enabling the generation of ~~the plurality of~~
at least three different measurement graphics based only
upon actuation of said at least one button of said mouse
when said pointer symbol is situated on said medical image
~~without actuation of said at least one button of said mouse~~
30 ~~when said pointer symbol is situated on menus, toolbars and~~
~~control panels~~ such that the measurement graphics are
generated without movement of said pointer symbol outside of
said medical image, and

35 enabling the generation of the at least three
measurement graphics without requiring a user to define
[[a]] in advance the type of graphics measurement graphic
being generated, ~~wherein one of the measurement graphics is~~
~~an angle value quantity which is assigned to a middle point~~
~~of a triple point actuating/positioning.~~

Claim 2 (Original). A method as claimed in Claim 1, wherein
a single-point actuating/positioning assigns an actual pixel

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position and/or a pixel intensity quantity to the point in question.

Claim 3 (Original). A method as claimed in Claim 1, wherein a point pair actuating/positioning assigns a distance value to the pair in question.

Claim 4 (Cancelled).

Claim 5 (Original). A method as claimed in Claim 1, wherein multiple-point actuating/positioning for an open or closed point sequence assigns an area value quantity to a concave region delimited by the sequence in question.

Claim 6 (Original). A method as claimed in Claim 1, wherein a freehand-drawn actuating/positioning for an open or closed curve assigns an area value quantity to a concave region delimited by said curve.

Claim 7 (Original). A method as claimed in Claim 1, wherein multiple-point actuating/positioning for an open or closed sequence assigns a poly-line measurement quantity to the sequence so drawn.

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Claim 8 (Original). A method as claimed in Claim 1, wherein a freehand-drawn actuating/positioning for an open or closed sequence assigns a measurement quantity to the freehand sequence so drawn.

Claim 9 (Currently Amended). A method as claimed in ~~any of~~ Claim 2, ~~3, 5, 6, 7 or 8~~, further comprising assigning a pixel staticizing to an assigned geometrical entity.

Claim 10 (Currently Amended). An apparatus arranged to provide and process a cursored user interaction with a spatially displayed medical image, wherein said apparatus comprises:

a menu-less graphical interface ~~for displaying~~ arranged to
5 display, essentially unobstructed, said medical image in a
substantial portion of said graphical interface without the
presence of menus, toolbars and control panels on said graphical
interface;

a pointing device having at least one button, wherein said
10 pointing device is represented on said graphical interface by a
standardized pointer symbol and wherein said pointer symbol
represents a current position of said pointing device within the
context of said graphical interface;

a processor configured to detect an actuation of each of
15 said at least one button of said pointing device and track
positions of said pointing device; and

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a processor-internal list of measurement operations, said measurement operations being performed upon at least one actuation of the at least one button and producing at least three corresponding, different measurement graphics on said medical image,

said processor being arranged to produce, when said medical image is displayed on said graphical interface without the presence of menus, toolbars and control panels, the plurality of at least three different measurement graphics based on said list of measurement operations ~~based~~ only upon actuation of said at least one button of said pointing device when said pointer symbol is situated on said medical image ~~without actuation of said at least one button of said pointing device when said pointer symbol~~ ~~is situated on menus, toolbars and control panels~~ such that the measurement graphics are produced without movement of said pointer symbol outside of said medical image + and ~~assigning means for assigning an angle value quantity to a middle point of a triple-point actuating/positioning.~~

Claim 11 (Currently Amended). An apparatus as claimed in Claim 10, ~~wherein said~~ further comprising assigning means ~~assigne~~ for assigning an actual pixel position and/or a pixel intensity quantity to a point upon a single-point actuating/positioning.

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Claim 12 (Currently Amended). An apparatus as claimed in Claim 10, ~~wherein said~~ further comprising assigning means ~~assigns~~ for assigning a distance value to a point pair upon a point pair actuating/positioning.

Claim 13 (Cancelled).

Claim 14 (Currently Amended). An apparatus as claimed in Claim 10, ~~wherein said~~ further comprising assigning means ~~assigns~~ for assigning an area value quantity to a concave region delimited by an open or closed point sequence upon a multiple-
5 point actuating/positioning for the open or closed point sequence.

Claim 15 (Currently Amended). An apparatus as claimed in Claim 10, ~~wherein said~~ further comprising assigning means ~~assigns~~ for assigning an area value quantity to a concave region delimited by an open or closed curve upon a freehand-drawn
5 actuating/positioning for the open or closed curve.

Claim 16 (Currently Amended). An apparatus as claimed in Claim 10, ~~wherein said~~ further comprising assigning means ~~assigns~~ for assigning a poly-line measurement quantity to an open or closed sequence upon a multiple-point actuating/positioning of
5 the open or closed sequence.

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Claim 17 (Currently Amended). An apparatus as claimed in Claim 10, ~~wherein said~~ further comprising assigning means ~~assigne~~ for assigning a measurement quantity to a freehand open or closed sequence upon a freehand-drawn actuating/positioning of the open
5 or closed sequence.

Claim 18 (Currently Amended). An apparatus as claimed in ~~any of Claim 11, 12, 14, 15, 16 or 17,~~ further comprising staticizing means for assigning a pixel staticizing to an assigned geometrical entity.

Claim 19 (Previously Presented). A machine readable computer program, said program implementing a menu-less graphical interface and arranged for processing cursored user interaction with a spatially displayed medical image for producing graphics
5 related data on such image, for implementing a method as claimed in Claim 1, said program being arranged for sensing mouse positionings and/or actuations and for effecting inherent measuring functionalities based on relative such positionings with respect to an associated imaged medical object, and for
10 subsequently outputting representations of said measuring functionalities for displaying in association with said medical object.

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Claims 20-24 (Cancelled).

Claim 25 (New). A method as claimed in Claim 1, wherein one of the measurement graphics is an angle value quantity which is assigned to a middle point of a continuous triple-point actuating/positioning.

Claim 26 (New). A method as claimed in Claim 1, wherein the at least three measurement graphics include a distance measurement between two points, an angle measurement between two lines formed by three points and an area measurement formed by a series of at least three points with the first and last points in the series being the same point.

Claim 27 (New). A method as claimed in Claim 1, wherein generation of the at least three measurement graphics is enabled immediately after said medical image is displayed on said graphical interface without intervening actuation of said at least one button of said mouse when said pointer symbol is situated on menus, toolbars and control panels.

Claim 28 (New). A method as claimed in Claim 1, further comprising determining which of the at least three measurement graphics is generated based on the number of points selected upon actuation of said at least one button of said mouse.

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Claim 29 (New). A method as claimed in Claim 1, further comprising determining which of the at least three measurement graphics is generated based on the topology of points selected upon actuation of said at least one button of said mouse.

Claim 30 (New). A method as claimed in Claim 1, further comprising determining which of the at least three measurement graphics is generated based on the number and topology of points
10 selected upon actuation of said at least one button of said mouse.

Claim 31 (New). An apparatus as claimed in Claim 10, further comprising assigning means for assigning an angle value quantity to a middle point of a continuous triple-point actuating/positioning.

Claim 32 (New). An apparatus as claimed in Claim 10, wherein the at least three measurement graphics include a distance measurement between two points, an angle measurement between two lines formed by three points and an area measurement
5 formed by a series of at least three points with the first and last points in the series being the same point.

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Claim 33 (New). An apparatus as claimed in Claim 10,
wherein generation of the at least three measurement graphics is
enabled by said processor immediately after said medical image is
displayed on said graphical interface without intervening
5 actuation of said at least one button of said pointing device
when said pointer symbol is situated on menus, toolbars and
control panels.